**ENGR 011/0711 • ASSG. 4 • FALL 2018/2191 • ADVICE ON SECTIONS, "TECHNICAL INFORMATION," SOURCES, & CITATIONS**

**WHAT MIGHT THE SECTIONS BE FOR ASSG. 4? DO I NEED AN INTRODUCTION? DO I NEED A CONCLUSION?**

* A logical structure for the paper would be to depict the scenario first, then proceed to show how you would go about making a decision regarding ethical questions/issues that the scenario brings up. Your Introduction, then, could be the scenario itself, along with brief coverage of sources/resources you will use to help you, the engineer, understand the issues and make decisions. Or, your Introduction could be just the scenario, with the next section being your initial analysis of/commentary on the scenario. In this after-the-scenario section you might, for example, preview the sources/resources that will be important to your process of decision-making (and briefly preview why those sources will be important).
* The next sections of your paper might explain, **clearly, in detail, and with constant, specific reconnection back to important aspects of the scenario**, how/why your sources (the codes, the articles, one or more “case studies,” the "other" resources) are useful in assisting you with your decision-making process. When discussing the “usefulness” of a particular source, you can specify how a particular source is useful, *but* does not provide *all* the input or information needed to make a responsible, fully-informed decision.
* You might conclude the paper by describing the decision you would make, though you are not, for the purposes of this paper, required to make a final decision. If you do not conclude with a firm decision about what you would do, you might conclude with a clarification of how you are continuing to think about the ethical situation. In either case, you would again need to make all necessary reconnections, **so readers can clearly see where you "are" in the decision-making process, where you are "going" in the decision-making process, and why.**

**HOW MUCH “TECHNICAL” INFORMATION/EXPLANATION DO I NEED IN ASSG. 4? HOW EXTENSIVE SHOULD THE EXPLANATION OF A TECHNOLOGY (AND/OR PROCESS, MATERIAL, ETC.) BE?**

In Assg. 4, you must be specific about the "ethical issues" you, as an engineer, are faced with. In Assg. 4, the type and amount of information about the related science/engineering--materials, processes, mechanics--will be determined by your particular scenario. In Assignment 4 you ***might* need to be quite specific about a product or process, or a component of that product or process, in order for readers to "see" the role or place of this product or process or component in the ethical dilemma.**  **OR** you ***might* need to include less** "product/process-specific" information about the materials, components, mechanics, and/or systems involved, **because your "ethically charged scenario" is less about technical aspects of a product/process, and more about an issue that is not significantly related to an actual, technical product or process.** How much “technical” information you need depends on your scenario and the issues/decisions involved.

* Let’s say for your scenario for Assg. 4 you are imagining that you are working for Company A. You are working on the research and development of a nano-drug delivery system for cancer treatment. In your scenario, Company B is offering you a considerable amount of money if you will secretly provide them with proprietary information from your work with Company A. In Assg. 4, **what you would need to be specific about, in terms of the “science and engineering” of the nano-delivery systems for cancer treatment? You would need to clarify *why the information* company B wants is important (to both Company A and Company B)**—what do Companies A and B see as valuable about some of the particulars of your research; why will those particulars be profitable, and/or attention-getting, and/or award winning, and/or display the company’s devotion to treating/curing particular diseases? **In Assg. 4, in your scenario and as you reconnect to that scenario, you need to present enough explanation of the relevant science/technology so the reader can understand, to a reasonable degree, just how important to cancer treatment this innovation might be. In other words, for your scenario to have maximum credibility, readers need to see how/why the treatment is significant enough for various organizations/people to have an interest in "owning"/patenting the technology/process.**
* If your Assg. 4 ethical dilemma has very little to do with an actual "technical" product/process and mostly to do with an issue related to the *people* actually working on a project are, then there might be very little technical information needed. For example, say in your scenario, you, as an engineer, are working on a nano-drug delivery system, but your scenario is focused on an issue of gender discrimination involving you or a co-worker. In this scenario, and subsequent explanations/analyses, issues/information regarding discrimination and ethics might constitute more of your scenario and paper than information/explanation regarding "technical" aspects of that nano-delivery system. Keep in mind, though, that even ethical issues such as discrimination (or, say, potential financial malfeasance within an organization), can affect the progress of a particular technology/innovation; in this case, it would be useful to explain why delaying *this particular* product/process poses potential ethical problems.
* In your “real life” as a student writing this paper, you do not have to be an advanced expert on nano-delivery systems for the treatment of cancer! What you do have to do include enough information to reasonably "flesh-out"--to clarify the stakes-- your scenario. **In Assg. 4, in your scenario and as you reconnect to that scenario, you need to present enough explanation of the relevant science/technology so the reader can understand, to a reasonable degree, what is "at stake" in the ethical scenario and decision-making process.**

**WHAT SOURCE MATERIAL *MUST BE* INCLUDED *IN THE PAPER*? WHAT SOURCES MUST BE CONSULTED, BUT DON’T HAVE TO BE DIRECTLY INCLUDED IN THE PAPER?**

* In your paper, you **must include** information from the codes of ethics. It would be very difficult to discuss the value/use of the codes without
* quoting and paraphrasing from the codes
* referring to/discussing particular canons and/or directives and/or tenets of the codes
* In your paper, you **must include** information from/related to the 2 “ethics articles.”
* At the very least, you will refer to/summarize the 2 required articles. For example, you, as the engineer in your scenario, do some research on ethics in engineering (and/or in your particular area of engineering). In order to show how/why information that you found is or is not useful to your decision making process, you will need to refer to (and very possibly quote and/or paraphrase from) those articles. Thus, the articles will make an appearance in your paper.
* In your paper, **you must include** 2 “other” sources.
* You might ask, “but what if one of my additional sources is useful in a 'background' way, and I am not actually explaining it in my paper?" Here’s your answer
* Your “other sources,” no matter what they are (parents, grandparents, siblings, teachers, mentors, engineers, books, movies, articles, poems, works of fiction, places, etc.) are too important to your decision-making process to serve as “background”; it would be extremely difficult to show the usefulness and value of these “other” source” by keeping them in the “background.” If a person or a book or a place is important to your decision-making process, then you will include the relevant information in your paper in order to show/discuss its role and importance in your decision-making process. See “how and where do I cite various sources” for info. on how to cite “non-traditional” sources.
* You may, **but you do not *have to* include** information from one or more of the 3 required “case studies/events"
* You must consult 3 case studies/events, but you are not required to include information—quotes, paraphrases, summaries and accompanying discussion—of the case studies in your paper. If you find that information from one or more case studies is useful and relevant to your decision-making process, then you may, of course, include that information (and, of course, discuss its importance/relevance). However, if the case studies were valuable as a way of helping you understand what a “scenario” might be like, but were not directly relevant/useful in any other way, then you do not have to include any case study information in your paper, and no case studies will appear in your Sources section. The case studies you consulted must, however, appear in your Additional Sources section!

**HOW DO I CITE (IN MY PAPER AND IN MY SOURCES SECTION) MY “OTHER SOURCES,” IF THEY ARE NOT “TRADITIONAL” SOURCES? DO I HAVE TO CITE A CONVERSATION THAT I IMAGINE I MIGHT HAVE, BUT DIDN’T *ACTUALLY* HAVE? DO I HAVE TO CITE A PLACE?**

* You do **not have to cite**, either within the paper or in your Sources or Additional Sources sections, **an imagined conversation.**
* However, you **must make it clear** within the paper with whom you would be talking, why you would want to talk with that person, and what you would be talking about. In other words, though there is no citation or “bibliographic information,” readers need to see what the resource is, why you would consult this particular resource, and what would be likely to take place if you did consult this resource.
* **You do not have to cite,** either within the paper or in your Sources or Additional Sources sections**, a place**.
  + However, you **must make it clear** within the paper what the place is (and you can name it, if it is a particular place with a name), why you would go there, and how that place is important to your decision-making process. In other words, though there is no citation or “bibliographic information,” readers need to see what this resource is and how and why this particular resource/place is important to your decision-making process
* If you have **an actual scenario-related conversation**, you ***do* need to cite that conversation**.
* If, as you were thinking about and writing your paper, you actually consulted with someone (for example, you talked to your mom or you emailed back and forth with a mentor), then you will cite that conversation/source within your paper and in your Sources section; for example: [4] J. Langdon. Phone conversation regarding ethical scenario. 11.16.2018
* If you have questions about whether or not to cite a source or about how to cite a source, get in touch with your Writing Instructor.